

The invention claimed is:

1. A weightlifting apparatus comprising:

a support frame having side sections defining a first direction and a handle adapted for grasping and lifting in a second direction different than the first direction;

5 a plurality of weights positioned between the side sections and having edges adjacent the side sections; and

an interlock mechanism including slide members slidably engaging and movable along the side sections, the slide members being configured to selectively engage and disengage the edges of the weights so that, when the handle is lifted, selected ones of the weights are secured to the support frame and lifted with the support frame.

2. The apparatus defined in claim 1, including interlock members that operably engage the slide members to move between a recessed disengaged position for releasing the weights, and a protruding engaged position for securing the weights to the support frame.

3. The apparatus defined in claim 2, wherein the slide members include camming surfaces that engage ends of the interlock members.

4. The apparatus defined in claim 3, wherein at least one of the interlock members are slidably attached to each of the plurality of weights.

5. The apparatus defined in claim 4, wherein the camming surfaces engage the interlock members as the slide members are moved along the side sections so that as the camming surface engages one end of the interlock tab, an opposite end of the interlock tab engages the support frame on an opposite side.

6. The apparatus defined in claim 5, wherein the slide members include front and rear slide members, and including a band attached between the front and rear slide members so that when one of the front and rear slide members is moved, the other of the front and rear slide members is moved in an opposite direction by the band.

7. The apparatus defined in claim 1, wherein the side sections define a plane with the first direction being in the plane, with the second direction being perpendicular to the plane.

8. The apparatus defined in claim 1, including fixed weight plates attached between the side sections, and including a handle extending between the fixed weight plates in a balanced position.

9. The apparatus defined in claim 1, including an interlock tab movably supported on each of the weights, the slide members each being shaped to engage an angled end of the interlock tabs.

10. The apparatus defined in claim 1, including two of the slide members operably connected together for simultaneous opposite movement.

11. The apparatus defined in claim 1, including notches in side edges of each of the weights, and wherein the slide members are configured to releasably engage the notches to lock the weights to the support frame.

12. The apparatus defined in claim 1, wherein the support frame includes end sections connecting the side sections to form a rectangular ring.

13. The apparatus defined in claim 1, including a base shaped to support the plurality of weights and shaped to abuttingly engage the support frame in a rest position where the plurality of weights can be selectively engaged by moving the slide members.

14. A weightlifting apparatus comprising:

a support frame having side sections defining a first direction and a handle adapted for grasping and lifting in a second direction different than the first direction;

a plurality of weights positioned between the side sections and having edges adjacent the side sections, each weight including an interlock tab member that is slidable toward the side sections and slidable away from the side sections; and

an interlock mechanism configured to selectively engage and disengage the interlock tab members with the side sections so that, when the handle is lifted, selected ones of the weights are

secured to the support frame and lifted with the support frame and selected other ones of the weights are released from the support frame.

15. The apparatus defined in claim 14, wherein the side sections define a plane, and the first direction is located in the plane.

16. The apparatus defined in claim 15, wherein the tab members are each slidably supported for movement parallel the plane.

17. The apparatus defined in claim 16, including slide members operably supported on the support frame for movement into and out of engagement with the interlock tab members.

18. The apparatus defined in claim 17, wherein the slide members include camming surfaces for engaging and moving interlock tab members,

19. The apparatus defined in claim 18, wherein the slide members include a front and a rear slide member.

20. The apparatus defined in claim 19, including a flexible band operably supported on the support frame and interconnecting the slide members for simultaneous movement.

21. The apparatus defined in claim 14, wherein the interlock tab members include an enlarged end having the camming surfaces thereon.

22. The apparatus defined in claim 14, wherein the support frame includes end sections forming a rectangular ring with the side sections.

23. The apparatus defined in claim 14, including a base configured to receive and support the plurality of weights and the support frame.

24. A weightlifting apparatus comprising:

a weight plate including a mid-section defining a lateral direction, opposing edges and an interlock member slidably engaging the mid-section for movement parallel the lateral direction, the interlock member having a locking end and being moveable between a centered position where the locking end is located in an associated edge of the weight plate and an extended position where the locking end protrudes from the associated edge.

25. The apparatus defined in claim 24, including at least one face surface on the weight plate having a guide formed therein.

26. The apparatus defined in claim 24, including notches in edges of the weights, and wherein the interlock member has an enlarged section that fits into one of the notches.